PRODUCTIVITY COMMISSION ISSUES PAPER: DATA AVAILABILITY AND USE

Australian Automobile Association

SUBMISSION - JULY 2016

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Foreword

Michael Bradley

Chief Executive
Australian Automobile Association

The Australian Automobile Association (AAA) is the peak organisation for Australia's motoring clubs and their eight million members. The AAA advances the interests of its constituent motoring clubs as well as all road users across Australia to ensure motoring is safe and affordable, and that Australia's transport infrastructure delivers for the community and the economy.

The AAA welcomes the opportunity to comment on the Productivity Commission's Issues Paper: Data Availability and Use. The AAA believes that data is a key economic resource and supports the Australian Government's policy to improve the availability and use of public and private data.

In developing the submission, the AAA has identified a number of data sets that are known to exist in various forms, but which cannot be readily accessed by third parties, like the AAA and other industry groups, consumers or members of the public.

From the direct perspective of the AAA and the state motoring clubs, there are a number of areas in the motoring and transport sector where the increased availability and use of data would improve competition, empower consumers, and support road safety through better information and monitoring of government policy. The submission focuses on data access provisions, a lack of data sharing and inadequate data set linkages, and provides examples of areas where improved and increased data linking and availability would benefit the clubs and their members.

In particular, the submission provides four examples of policy areas where data sets are currently not easily accessible and shortcomings are impacting on consumers:

- **Vehicle data;**
- **Fuel data;**
- **Road safety data; and**
- **Transport cost data.**

A high level summary of these key issues is provided in Section One of the submission, with further detailed information in Section Three.

To improve the availability of these data sets, the AAA has developed a set of key guiding policy principles that would improve access and monitoring of these issues:

- **Open, timely access to public data sets;**
- **Where possible, consistent reporting of data between jurisdictions;**
- **Access to and control of personal private data; and**
- **Open access to private data, where there is a public benefit, can improve competition and transparency.**

These principles are outlined in Section Two of this submission.

Michael Bradley
Chief Executive

SECTION ONE: OVERVIEW OF DATA OF INTEREST TO THE AAA

This section sets out in summary form the key data issues for the AAA and its member clubs. Further detail on each of these data sets is provided in Section Three of the submission.

1 Vehicle Data

A key area of concern to the AAA and its member clubs is access to vehicle data. This covers data produced directly by vehicles, service and repair data to allow vehicles to be appropriately maintained, as well as compliance data for vehicle certifications.

With increasing connectivity, vehicles will be receiving and transmitting more real-time road and traffic condition information, data on vehicle and engine operation, as well as location and personal data via in-vehicle telematics. This use of data will be extremely beneficial to all road users leading to a reduction in congestion and travel times and provision of a range of safety and convenience features.

However, the use and provision of data isn't always in the best interest of road users. It is important that any restrictions around access to certain data sets do not have unintended impacts on competition and consumer choice. The AAA believes that vehicle manufacturers should clearly disclose to consumers any data they collect. Furthermore, the AAA believes that vehicle manufacturers should provide consumers with a choice over whether their car data is transmitted and with whom it is shared.

Access to service and repair information from manufacturers is critical to ensure that consumers are able to exercise choice in who maintains their vehicle. The AAA is concerned that if consumers are prevented, or limited, from accessing their vehicle data, it will inhibit third parties from supplying services to consumers. The AAA considers that this issue is fundamental to competition within the automotive repair and service industry.

In addition, the data used to demonstrate vehicle compliance such as mandatory safety, emissions, noise and anti-theft standards, are not available in the public domain. As a consequence, there is no transparency for third parties to review the data, nor can it be used to formulate policy or monitor trends in vehicle performance against any of the regulated criteria.

For instance, third parties and consumers have no visibility of the level of noxious emissions produced by vehicles on the Australian market, as the results of these laboratory tests are not disclosed. Australians need to be aware of the actual emissions produced by the vehicles their families use — not just the emissions results from laboratory tests. The AAA believes that the only way to ensure the reliability of such data is to have vehicles independently tested in Australia under real driving conditions. All of this data should be in the public domain.

Furthermore, data regarding vehicle safety can be useful in evaluating the effectiveness of vehicle safety programs, when considering changes to safety regulation, or reviewing performance of vehicles after modification or recall action.

2 Fuel Data

As most Australian cities are affected by fuel price cycles, the AAA is strongly supportive of consumers being able to benefit from an environment in which fuel price data is transparent and readily available on multiple platforms.

Currently there is little consistency between jurisdictions on how fuel price data is collected or made available to the public. This limits transparency of pricing, making it difficult for consumers to keep track of low fuel prices in different locations, and/or price cycles. The AAA's constituent clubs work hard to bring fuel price data to consumers, but the lack of availability of consistent, real time data hampers their efforts to provide this community service.

In addition to the lack of consistent fuel price data, there is also a lack of data on the quality of fuels supplied to the Australian market. Under the *Fuel Quality Standards Act 2000*, fuels are required to meet particular specifications.

However, there is no publicly available data on the composition and performance of fuels supplied to the market, despite the fact that fuel suppliers are routinely sampling and testing fuels, and the Department of Environment undertakes an audit program to sample and test fuels for compliance. Access to this data would allow the AAA to monitor the effectiveness of fuel standards.

3 Road Safety Data

In Australia, there is currently no national system for the measurement of serious road crash injuries, despite the National Road Safety Strategy 2011-2020 including a target of a reduction of at least 30 per cent in serious injuries over the decade.

To monitor Australia's progress in improving road safety, it is critical that governments and industry have access to accurate and readily available data on road deaths and serious injuries.

Furthermore, the availability of consistent, up to date data on Australia's road network in an open source platform would better inform road safety programs. It is widely recognised that a key way to reduce road crashes and ongoing associated costs is to improve the quality and safety of our roads.

To monitor the condition of Australian roads, the AAA's AusRAP program analyses sections of the National Land Transport Network with a speed limit of 90 km/h or more. AusRAP uses two complementary methods—or protocols—for assessing the safety of roads: Risk Mapping and Star Ratings.

To undertake the analysis, the AAA receives data sets from state-based road authorities. However, the data sets are often incomplete, lack comparability or are of poor quality. The result is that it is more difficult than necessary to obtain an accurate and objective overview of the performance of the national highway network. Regular publication of high-quality geospatial data from the road authorities would greatly facilitate AAA analysis.

4 Transport cost data

In the interests of consumer information and transparency, the AAA believes that transport cost data from a range of sources needs to be made more easily accessible. Allowing consumers, and consumer advocates such as the AAA and its member clubs to access and analyse this data, would enable the public to better understand the true cost of transport, and the variations in cost across jurisdictions.

The AAA has recently commenced the development of a comprehensive transport affordability index, which draws on public and private data sources. Whilst much of the data needed to show the relative costs of transport between jurisdictions is readily available through sources such as state government websites and the Australian Bureau of Statistics, many other data sets are not easily accessible. In particular, the AAA would welcome greater access to consistent data on costs including tolls, parking charges, and public transport fares.

SECTION TWO:
AAA OPEN DATA POLICY PRINCIPLES

A lack of accessibility to key vehicle and transport data sets is having a detrimental impact on the work of the AAA and its member clubs as consumer advocates, and also on consumers who are not able to monitor market conditions and seek out affordable transport options.

As a result, the AAA has developed a set of key policy principles for the Productivity Commission to consider in future stages of this inquiry

1. Open, timely access to public data sets

The AAA believes that data produced for and by public sector agencies should be made available in a timely and consistent manner through open channels. This would allow members of the public to easily access data used to inform government policy, and allow consumer advocates and other industry bodies to monitor the delivery of government policies and programs. The most prominent example of public data for which the AAA would like to see timely, consistent open access to, is road safety data.

2. Where possible, consistent reporting of data between jurisdictions

The AAA uses public data sets to inform its policy and advocacy work. However, this is often hampered by the way data is collected and made available in different jurisdictions. These differences can make it difficult for national reports to be produced, or for policy outcomes to be compared across the country. This is the case for fuel price data, road deaths and casualty injury data, and transport fees and charges.

3. Access to and control of personal private data

The AAA believes that the community has a right to access and control personal private data generated as a result of their day to day activities. This is particularly the case in relation to data generated by motor vehicles. This has implications for privacy, consumer choice, consumer protection, and competition within the service and repair industry.

4. Open access to private data, where there is a public benefit, can improve competition and transparency

A number of private data sets are of interest to the AAA, its member clubs, and the motoring public, and many of these have the potential to improve transparency and allow for greater competition. The lack of data availability means that opportunity exists for market domination by large corporate entities, and for consumers to have no transparency in terms of price or product availability.

The AAA strongly believes that the Productivity Commission should consider ways to improve access to private data sets where this would provide consumer benefit. This is particularly the case for fuel price data, vehicle service and repair data, as well as vehicle compliance test results and vehicle emissions data, although the AAA recognises that some of this data may be available from government sources.

SECTION THREE: FURTHER ANALYSIS OF DATA OF INTEREST TO THE AAA

Section Three provides a detailed description of the data sets that the AAA has highlighted as areas of focus for the motoring clubs. The information in this section is to provide the Productivity Commission with a detailed understanding of why the data is important, and how the application of the Policy Principles set out in Section Two would allow the AAA to better advocate on behalf of Australian road users and motoring consumers.

1 Vehicle Data

a. Access to and control of vehicle data

Vehicle technology is developing at a rapid pace. Features like electronic blind spot assistance, automated emergency braking systems, park assist, reversing cameras, cruise control, lane departure warnings and Wi-Fi connectivity are no longer luxury items - they are considered standard in today's car. As technology improves, manufacturers will deploy even higher levels of automation and connectivity like 'vehicle to vehicle' technology, which allows vehicles to communicate important safety data and mobility data to one another. General Motors expects to bring such technology to the US in 2017.[1]

As manufacturers offer increased connectivity and automation, more and more vehicles will have the ability to transmit data via in-vehicle telematics. This data includes information on vehicle location, engine operating characteristics and on board diagnostics, driving speed, driving style, activation of vehicle safety systems, automatic crash notification and infotainment.

As highly automated vehicles are progressively introduced into Australia's light vehicle fleet, it is inevitable that all sorts of vehicle data including crash data will be shared by automated vehicle technology suppliers. For instance, in the US, 96 per cent of new passenger vehicles sold have event data recorders that record actions taken in the seconds prior to and following a crash.[2] California law concerning autonomous vehicles also requires 30 seconds of sensor data storage prior to a collision to help establish fault.[3] In Australia, police are already using data from smartphones or on-board computers to investigate serious crashes.

A key issue of concern for the AAA and motoring clubs is the question of access to and control of the data produced by modern vehicles. Currently, there is an inconsistent approach across manufacturers about the use of vehicle data. Where opt-out provisions do exist, consumers are sometimes faced with significant operability and safety implications which limit their ability to opt-out. For example, Tesla's website currently states that if a customer opts out of data collection this may result in the vehicle suffering from "serious damage, or inoperability".[4]

The Productivity Commission has previously raised concern about privacy issues with regard to connected and autonomous vehicles, stating in its *Research Report - Digital Disruption: What do governments need to do?* that "The development of connected and autonomous vehicles and smart infrastructure will generate an increasing quantity of data on road users, raising potential privacy concerns for users, depending on the use and maintenance of that data by data

collectors governments and third parties."[5]

The AAA recently conducted research into this area and found that 81 per cent of motorists thought the car owner should own the car's data. Furthermore, 90 per cent felt the owner should control access. Motorists clearly want to control the data generated by their vehicle and to transfer it to a service provider of their choice. Motorists felt so strongly over the issue that 82 per cent felt it was important for the Federal Government to develop laws to deal with the issue.

AAA Position

The AAA believes that manufacturers should always provide a written disclosure to consumers of any data collected by their technology, and written approval should be obtained.

Furthermore, the AAA believes that motorists should be able to assume that they have access and control over their car data, either in relation to the vehicle's performance, operation or security. The exception to this scenario is where data is needed to be recorded or disclosed for safety purposes. For example, for the investigation of a collision or a system failure.

b. Access to service and repair data

As the data generated by vehicles increases, so does the value of this data for a range of commercial uses. With the emergence of the 'connected car', there is a concern that vehicle manufacturers are looking to restrict access to and control of the data produced by vehicles to advance their own commercial interests. Allowing only one service provider (i.e. the vehicle manufacturer) to access vehicle data about an accident, service schedules, breakdown or other safety feature of a vehicle, limits consumer choice, competition and may create monopolies in the automated vehicle repair and service market.

The Productivity Commission has previously raised concern about market power arising with the digital economy. In its Research Report - *Digital Disruption: What do governments need to do?* It found that: "Any exclusivity arrangements that serve to prevent data or network access should be carefully monitored."[6]

Some of the information independent repairers may not have access to or have up to date information on, which would preclude them from offering services, include technical service bulletins, re-initialisation and calibration information, on-board diagnostics and software upgrades and oil specifications. As vehicles increase in complexity, this information will become more and more critical.

In 2014, the AAA, the Federal Chamber of Automotive Industries (FCAI), the Motor Trades Association of Australia (MTAA), the Australian Automotive Aftermarket Association (AAAA) and the Australian Automotive Dealer Association (AADA) signed a voluntary Agreement on Access to Service and Repair Information for Motor Vehicles. The agreement sets out the overarching principles of consumers right to choose service and repair providers. The Agreement represents a commitment from vehicle manufacturers to provide relevant service and repair information, as needed, to the independent repair sector.

Consumers who are compelled to use the vehicle manufacturer as the provider of a given ancillary service may potentially pay higher prices for these services. By locking out independent service providers who compete on the basis of price, consumers will have little choice but to accept the prices determined by vehicle manufacturers.

This can also have implications from a road safety perspective; in that motor vehicle owners have an obligation to maintain their vehicle in a safe, roadworthy and reliable condition. To do this, they should have a right to choose which supplier provides this service for them. Lack of choice and pricing considerations should not act as disincentives for motorists to have their vehicles serviced regularly. Allowing only

one service provider (i.e. the vehicle manufacturer) to access vehicle data about an accident, breakdown or other safety feature of a vehicle may place not only the driver, but other motorists at risk of an adverse safety situation.

Furthermore, emerging technologies, particularly in-vehicle telematics, may have implications beyond the service and repair industry. Services such as roadside assistance and usage-based car insurance might also be affected if consumers are restricted from accessing vehicle data and providing it to their preferred service provider.

AAA Position

Access to service and repair data should be available to independent repairers to ensure that consumers are not restricted in their choice of vehicle repairer. Any restriction on access to vehicle data would constitute significant erosion in consumer choice.

c. Vehicle Compliance data

Motor vehicles supplied to the Australian market are required to meet a range of mandatory safety, emissions, noise and anti-theft standards under the *Motor Vehicle Standards Act 1989*. The Australian Government administers a compliance regime to confirm that vehicles meet these standards, however, the data used to demonstrate compliance is not available in the public domain. As a consequence, there is no transparency for third parties to review the data, nor can it be used to formulate policy or monitor trends in vehicle performance against any of the regulated criteria.

Data regarding vehicle safety can be useful in evaluating the effectiveness of vehicle safety programs, when considering changes to safety regulation, or reviewing performance of vehicles after modification or recall action.

For example, braking test performance data could be used to verify the performance of aftermarket brake replacement parts. Similarly, data on the performance of stability control systems could be used to assess the safety of vehicle modifications that could affect the stability of vehicles.

Emissions can contribute to poor air quality in our cities, while noxious emissions can contribute to respiratory illnesses and other serious diseases. At present, third parties have no visibility of the level of noxious emissions produced by vehicles on the Australian market, which would allow consumers to understand the contributor of vehicle emissions to air polluter.

Australians need to be aware of the actual emissions produced by the vehicles their families use — not just the emissions results from laboratory tests. The Australian Government's Green Vehicle Guide reports on a vehicle's emission standard based on the Euro level of compliance; however it does not disclose the actual noxious emission figures. The only way to ensure the reliability of emission data presented by manufacturers is to make the certification emissions data available, and have vehicles independently tested in Australia under real driving conditions. The European Union undertakes vehicle emission testing under real driving conditions, as does the United States.

There is also considerable scope to make the information provided to Australian consumers easier to understand by incorporating comparative information as well as providing more information about vehicle safety, vehicle emissions and fuel operating cost savings.

AAA Position

The AAA believes that there needs to be greater access to and transparency of vehicle compliance data. This can be used to provide consumers with guidance on operating cost savings as done in the United States and New Zealand. Additionally, the Australian Government should ensure vehicle emissions data reflects real world driving conditions and is independently verified and that the results for each vehicle are made available.

d. Vehicle registration data

Nationally consistent, publicly available vehicle registration data, when combined with other datasets such as safety ratings, fitment of safety equipment to vehicle models, vehicle mass, fuel consumption and vehicle emissions, would enable analysis of fleet effects for safety and emissions.

Availability of data regarding individual vehicle sales (both new and used) and stamp duty collection would allow trends in sale prices of used vehicles to be determined and vehicle affordability to be assessed. This can be used to inform strategies aimed at improving safety or emissions, which depend on vehicle purchasing behaviour.

The Motor Vehicle Census prepared by the Australian Bureau of Statistics presents statistics relating to vehicles which were registered with a motor vehicle registration authority. Statistics are provided on vehicle types comprising passenger vehicles, campervans, light commercial vehicles, trucks, buses and motorcycles. Vehicle information also includes make of vehicle, year of manufacture, type of fuel that the vehicle was registered as using, and Gross Vehicle Mass or Gross Combination Mass for trucks.[7] However, this is available as aggregated data only. While this data by the ABS is valuable, it does not provide sufficient detail to analyse fleet effects for safety and emissions.

AAA Position

The AAA supports the availability of nationally consistent vehicle registration data, information on sales of new and used vehicles, and sales prices and/or stamp duty collection.

2 Fuel Data

a. Availability and consistency of fuel price

Fuel is a significant and essential expense for many Australian households, which serves to highlight the need for effective competition in the retail and wholesale fuel markets.

A key concern for the AAA and the state motoring clubs is the availability of real time, location specific, fuel pricing data to allow consumers to make informed purchasing decisions. Whilst the AAA acknowledges that fuel price data is a private data set, there are clear public benefits associated with this data being made widely available.

The availability of fuel price data varies between each state and territory. Two states have mandated reporting arrangements in place (or soon to be in place), whilst other states rely on private data providers to inform consumers.

In Western Australia, fuel price information is available through FuelWatch, a fuel monitoring service initiated by the Western Australian Government in January 2001. Legislation requires retailers to notify their next day's fuel price for each fuel they sell by 2pm, and stay at that notified price for 24 hours. Prices are then displayed on the FuelWatch website, allowing motorists to locate the cheapest fuel.

In New South Wales, the Government recently passed legislation requiring all service station operators to provide up to date fuel prices to an online database. The online fuel price board, called FuelCheck, is expected to be operational by the end of July 2016.

AAA Position

As most Australian cities are affected by fuel price cycles, the AAA is strongly supportive of consumers being able to benefit from an environment in which fuel price data is transparent and readily available. A consistent approach should be pursued across the entire country to ensure that consumers have equal access to this data so that they can make informed purchasing decisions, and drive competition within the market.

It is the long-held view of the AAA motoring clubs that there should be equal access to information on fuel prices between fuel companies and consumers, thus providing oil companies and the wider public with the same information at the same time.

b. Fuel quality data

Under the Fuel Quality Standards Act 2000, motor vehicle fuels supplied to the Australian market are required to meet particular specifications. However, there is no publicly available data on the composition and performance of these fuels, despite the fact that fuel suppliers are routinely sampling and testing fuels, and the Department of the Environment undertakes an audit program to sample and test fuels for compliance.

If this data was more widely available, advocacy agencies such as the AAA and the motoring clubs would be better informed in relation to policy debates related to fuel standards, vehicle emissions and air quality, and better able to support consumer confidence in relation to the fuels being sold into this market.

Whilst consumers should rightly expect that all fuels comply with mandatory national standards, transparency of the underlying data can build consumer confidence and test suppliers' claims regarding fuel quality.

Data regarding fuel quality would also provide an insight into the margin of compliance with current fuel standards, which would assist in consideration of amendment to fuel standards, and assist with identifying sources of problems with fuels for motorists.

Fuel quality is also linked to vehicle emissions performance, and knowledge of the composition and performance of fuels would enable consideration and modelling of the effect of fuels on vehicle emissions and air quality.

AAA Position

The AAA supports increased availability of data regarding the quality of fuels supplied to the Australian market.

3 Road safety data

a. Monitoring serious road crash injuries

Road deaths and injuries are a tragic consequence of our road transport system, with over 1,200 people dying on our roads each year, while tens of thousands are injured.

Road deaths are reported by relevant State and Territory road safety authorities, with the Bureau of Infrastructure, Transport and Regional Economics (BITRE) releasing statistical summaries monthly. The availability of road crash injury data, on the other hand, is much more problematic. This is because Australia's State and Territory Governments have no common definition of what constitutes a serious injury.

The latest data that can be found on national road crash injuries dates back to 2011.[8] This data was collated from reports by the Australian Institute of Health and Welfare (AIHW) and the National Injury Surveillance Unit (NISU), as well as from unpublished National Hospital Morbidity Database reports, which was compiled by NISU.

To monitor Australia's progress in improving road safety, it is critical that governments and industry have access to accurate, consistent and readily available data on road deaths and serious injuries.

Under the National Road Safety Strategy 2011-2020, the Australian, State and Territory Governments have committed to reducing the number of fatalities and serious injuries by at least 30 per cent by 2020. Yet with no national system for the measurement of serious injuries, it is impossible for regulators and governments to accurately measure progress.

The National Road Safety Strategy (NRSS) recognised this as a key issue, and recommended that a priority action within the first three years (i.e. 2011-2014) was to "work towards the adoption of nationally consistent road crash classification definitions and the development of an improved national serious injury database."[9] Unfortunately, this has not yet happened, clearly indicating that governments across Australia are not doing all that is required to monitor and improve safety on the roads.

The NRSS was recently subjected to a review from which the National Road Safety Action Plan 2015-2017 was developed. The review found that "progress in reducing serious injury numbers was difficult to determine because of the lack of reliable, nationally consistent, non-fatal crash data. Available hospital data provided some evidence that serious injury levels had not declined in concert with the general downward trend in deaths".

It is clear that the measurement of serious injuries must be addressed urgently in order to be able to assess the effectiveness of actions in reducing road trauma.

The AAA has also experienced, first hand, the difficulty in obtaining very basic, high level national data on fatalities and casualty crashes on the National Highway Network. During the latest Australian Road Assessment Program (AusRAP) risk mapping process, data sets on vehicle crashes were requested from all jurisdictions, with some struggling to provide the requested data. When data sets were eventually received, a considerable amount of time was needed to amend the data sets to ensure consistency on a national level. Given this data is critical to informing road safety programs, the AAA believes it should be available all year round, in a consistent form, on an open access platform.

This is in contrast to New Zealand, which has road crash injury statistics publicly available as of January 2016. This data is derived from Traffic Crash Reports and stored in the New Zealand Transport Authority's Crash Analysis System. Statistics are broken down into age, sex and road user type and include national hospital, breath and blood alcohol, road user behaviour and comparative international statistics.

AAA Position

The AAA is aware and very supportive of the project being undertaken by Austroads to assess the feasibility of linking the National Hospital Morbidity Database with crash data. However, the project has a timeframe of at least several years, and the outcomes remain uncertain.

The AAA, in partnership with the Royal Australasian College of Surgeons, is seeking funding of $150,000 per year so that data from the Australian Trauma Registry can be used as an interim measure to estimate the level of serious injury and assess trends over time. While there are limitations in the data in the Australian Trauma Registry, such as the absence of a direct linkage to individual road crash data; records of only a proportion of all transport-related casualties; and the need to determine an injury severity threshold for reporting of casualties, the AAA is of the view that the modest finding of $150,000 annually, would facilitate significant improvements in road safety and a reduction in serious injuries.

b. AusRAP

The Australian Road Assessment Program (AusRAP) has analysed the network of major highways and motorways in Australia, as defined in the National Land Transport Act 2014. In broad terms, this network consists of the system of roads connecting Australia's capital cities and large regional centres. AusRAP evaluates the sections of this network with a speed limit of 90 kilometres per hour or above, which sum to more than 22,000 kilometres of road.

AusRAP comprises two complementary but distinct assessment exercises: risk mapping and star rating.

A star rating is algorithmically assigned to a road as a reflection of its physical safety attributes. One-star roads are the least safe, while five-stars are the safest.

The presence or absence of safety features designed to reduce the risk of crashing, or reduce the injury outcomes of a crash, determines the rating. Higher ratings are given to roads that have good design elements such as roadside barriers, rumble strips, wide lanes, divided carriageways and clear line markings. Lower-rated roads are likely to have single lanes and be undivided with poor line marking and hazards such as trees, poles and steep embankments close to the edge of the road. The most recent star rating report was published in 2013.

Risk mapping complements the star rating protocol by considering actual crash data and traffic volumes. For this analysis, sections of the highway network are given a colour ranging from green (lowest risk), yellow, orange, red and then black (highest risk).

Crashes occur not only as a function of design elements, but also because of driver behaviour and the safety attributes of the vehicle. Together, the star rating and risk mapping methods provide a comprehensive image of the safety of our highways.

AusRAP analyses utilise a number of data sources including:

- Geospatial data describing the national network of highways from Open Street Maps (OSM);
- Traffic volumes per road segment supplied by road authorities;
- Start and end points of road segments supplied (in some cases) by road authorities;
- Crash data supplied by road authorities; and

- Imagery of the national network at 100 m intervals, calibrated for image-based measurement and analysis, and with associated geospatial coordinates, supplied by road authorities.

The Department of Infrastructure and Regional Development provides a PDF map of the roads in the National Land Transport Network, but does not supply the underlying data.

The Australia Government has created data.gov.au as a repository of public data in Australia. It hosts the National Map, which contains numerous geospatial data sets. However, the 'roads' data set, supplied by Geoscience Australia and available in the National Map, contains only dual carriageways and therefore only covers part of the network.

By far the most difficult and time-consuming part of AusRAP Risk Mapping is receiving required data from the state-based road authorities. The data sets are provided in different forms, and can be incomplete or of poor quality. The result is that it is more difficult than necessary to obtain an accurate and objective overview of the performance of the national highway network.

This is in contrast to New Zealand, where the Land Information New Zealand (LINZ) is responsible for holding official address and road, and electoral streets and places data. Through the New Zealand Geographic Board, LINZ is also the source of official geographic names.

Simply by visiting the LINZ Data Service at www.linz.govt.nz data about property addresses, road names, road locations and place names can be easily downloaded in a geospatial format. The data is updated on the LINZ Data Service every week and is easily accessible in a range of different formats.

AAA Position

Regular publication of high-quality geospatial data in a consistent format from the road authorities regarding locations of roads, key road features, speed limits, traffic volumes and crashes would greatly facilitate AAA analysis, and assist governments to target their road safety investments.

4 Transport cost data

a. General cost data

States and territories hold valuable data sets in relation to land transport, but due to inconsistencies in service delivery and reporting it is often very difficult to create value from this data on a national level. The AAA is currently developing a transport affordability index or cost calculator in partnership with SGS Economics to ensure consumers are more aware of the transport costs they incur and how these compare across jurisdictions.

During this process it has become very clear how difficult a simple comparison can be. For example, every state and territory has different methods for charging for public transport, including different pricing for zones, modes and peak periods. Each of the jurisdictions also calculate vehicle registration differently, with costs varying quite significantly.

Other key cost factors that were difficult to find on an aggregate jurisdictional level included tolls, parking and general service and repair costs. As private road tolls become more common across Australia it will become increasingly important for this private data to be available for analyses. BITRE currently publish a lagged cost indicator for private tolls across Australia in their Australian infrastructure statistics—Yearbook, which was estimated at around $2 billion for 2013-14, however it's not clear how this figure was derived with the source only stating 'private toll road operators'.[10]

The AAA and SGS economics were able to overcome these limitations by basing the calculator on a typical hypothetical family according to average car usage and census data, however it will be important to have aggregate breakdowns in these areas going forward.

AAA Position

The AAA believes that there should be consistent reporting across the states and territories of all data relating to the underlying cost of transport, especially in the areas of tolls, parking, public transport and vehicle registration, and should be available on an open platform in order to better inform the public and put downward pressure on prices.

Endnotes

[1] GM Media, GM shows newest connected vehicle technology in China, June, 2016, viewed at: http://media.gm.com/media/cn/en/gm/news.detail.html/content/Pages/news/cn/en/2016/June/0607_GM-Shows-Newest-Connected-Vehicle-Technology-in-China.html

[2] Mainroads Western Australia: Automated Vehicles: Are we Ready?: January 2015 viewed at: https://www.mainroads.wa.gov.au/Documents/Automated%20Vehicle%20Report.RCN-D15%5E2381741.PDF

[3] California Department of Motor Vehicles viewed at: https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/bkgd

[4] Tesla Customer Privacy Policy, viewed at: https://www.teslamotors.com/en_AU/about/legal

[5] Productivity Commission Research Report: Digital Disruption: What do governments need to do?, June 2015, p.182

[6] Productivity Commission Research Report: Digital Disruption: What do governments need to do?, June 2015, p.5

[7] Latest Motor Vehicle Census data can be viewed here: http://www.abs.gov.au/ausstats/abs@.nsf/mf/9309.0

[8] BITRE Road Trauma Australia 2014 Statistical Summary, July 2015, viewed at: https://bitre.gov.au/publications/ongoing/files/Road_trauma_Australia_2014_statistical_summary_N_ISSN.pdf

[9] National Road Safety Strategy 2011-2020 pg. 104, viewed at: http://roadsafety.gov.au/nrss/files/NRSS_2011_2020.pdf

[10] BITRE: Australian Infrastructure Statistics Year Book 2015, viewed at: http://bitre.gov.au/publications/2015/files/BITRE_yearbook_2015_full_report.pdf

Mailing Address:
GPO Box 1555
Canberra ACT 2601

P 02 6247 7311
F 02 6257 5320
W www.aaa.asn.au

Address:
103 Northbourne Ave
Canberra ACT 2601